



## Procedures and Guidelines (PG)

**DIRECTIVE NO.** 820-PG-8072.0.2A  
**EFFECTIVE DATE:** October 19, 2015  
**EXPIRATION DATE:** October 19, 2020

**APPROVED BY Signature:** Original Signed by  
**NAME:** Debora A. Fairbrother  
**TITLE:** Chief, Balloon Program Office

### **COMPLIANCE IS MANDATORY**

**Responsible Office:** 820/Balloon Program Office

**Title:** Balloon Research and Development Laboratory (BRDL) Management Plan

## **PREFACE**

### **P.1 PURPOSE**

This procedure describes the process by which the Balloon Program Office (BPO) manages, operates and maintains the materials testing laboratory, known as the Balloon Research and Development Laboratory (BRDL).

### **P.2 APPLICABILITY**

This directive covers all work performed in the BRDL.

### **P.3 AUTHORITY**

GPR 8072.1, Process Control

### **P.4 REFERENCES**

820-PG-8072.0.1, Process for Requesting Services in the BRDL Using the Task Request Form (TRF)  
820-Form-2015-02, Task Request Form

### **P.5 CANCELLATION**

820-PG-8072.0.2, Balloon Research and Development Laboratory (BRDL) Management Plan

### **P.6 SAFETY**

Job hazard analysis and mitigation strategies are coordinated with the Code 803 Safety Office.

Specific requirements for mitigation of safety risks are detailed in the BRDL work instructions (WI) documents, including the required training necessary for personnel to perform the work.

In the case where personnel other than Laboratory Technician (LT) are performing the work, the customer personnel are required to produce documentation to certify to the LT or Laboratory Manager

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(LM) that they have satisfactorily completed all required training related to the work to be performed and the equipment to be used prior to performing the work.

## **P.7 TRAINING**

Personnel performing work in the BRDL, including interns shall have the appropriate current training certifications in the following areas:

- a. Laboratory Safety
- b. Hazard Communications
- c. Nitrogen Handlers Training (or Cryogenics Safety)
- d. Equipment Use

## **P.8 RECORDS**

Record Title	Record Custodian	Retention
Raw Data (RD) sheet(s)	LT	NRRS 8/103 Temporary. Destroy/delete between 5 and 30 years after program/project termination.
TRF (Completed)	LT	NRRS 8/103
Maintenance Records	LT	NRRS 8/56 B1(a) Destroy when 3 years old
Calibration Records	LT	NRRS 8/103

*\*NRRS – NASA Records Retention Schedules (NRRS 1441.1)*

## **P.9 MEASUREMENT/VERIFICATION**

The LM will hold tag-ups with the organizations or personnel requesting support from the BRDL. The LM will match the resources available to the requested task, he/she will insure that the task is performed according to the instructions in the TRF.

## **PROCEDURES**

In this document, a requirement is identified by “shall,” a good practice by “should,” permission by “may” or “can,” expectation by “will,” and descriptive material by “is.”

### **1.0 Work Initiation and Completion Process**

- a. Requirements

All work to be performed in the BRDL is controlled using the Task Request Form (TRF), 820-Form-2015-02. Procedures for using the TRF are covered in 820-PG-8072.0.1, *Process for Requesting*

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*Services in the BRDL Using the TRF*, and various other BRDL Work Instructions (WI). The TRF must be submitted and approved by the LM prior to performing any activities in the BRDL.

b. Procedures

Code 820 has established standard test procedures or WI's for the more common types of material tests performed in the BRDL. Custom tests that do not fit within the established WI's shall provide detailed instructions for the tasks requested and must utilize the TRF for requesting any and all support from the BRDL.

c. Accountability for Test Data

Data obtained in the BRDL will be reviewed and accepted by the LM prior to submitting it to the task originator.

d. Cost/Schedule

The BRDL LM will utilize the information on the TRF to provide an estimate to the requesting customer of the hours required to complete the test and any special costs associated with conducting the test (consumables and materials not typically available in the BRDL). Outside organizations must provide charge number prior to initiating work/support by the BRDL personnel.

**Note:** The schedule of activities and priorities in the BRDL is established by the LM.

## 2.0 Laboratory Assets

a. Equipment

The test equipment in the BRDL includes some standard commercially available test equipment, such as Instron tensile test machines, as well as, custom built test apparatus, such as the chamber and apparatus for conducting bi-axial film cylinder tests. Equipment is maintained by the BRDL test technicians. Test equipment and facilities are primarily operated by the BRDL LT. Laboratory customers can also utilize or operate equipment/tools that do not require formal training based on the discretion of the LM.

Management of the controlled property in the BRDL is the responsibility of Code 820.

b. Information Technology (IT) Equipment

Most of the equipment in the BRDL includes computer systems for control and data capture. These systems are highly integrated with the test equipment, often with custom input/output boards, etc. A server is located in building E-109 for the purpose of storing test data and laboratory records. The server and some of the test equipment computers are connected to the WFF/GSFC network. The BRDL's computers and server are maintained by Code 500.

## 3.0 Maintenance

Maintenance of equipment is performed on an as needed basis by the BRDL test technicians. Maintenance of vendor-purchased test equipment, such as the Instron tensile test machines, is

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provided under a contract with Instron. Coordination of regular maintenance visits by the Instron representative is managed by the LM. Maintenance records are maintained by the LT in the BRDL.

#### 4.0 **Calibration**

Inspection, Measurement and Test Equipment (IMTE) is calibrated by the WFF Calibration Laboratory through their approved process. Equipment requiring manufacturer calibration is done through service contracts and/or through purchase order; the records for this activity are maintained by the LT and are kept in the BRDL.

## Appendix A – Definitions

- A.1 Laboratory Manager (LM) - is the person responsible for directing and coordinating the activities in the BRDL. Other duties include training of LT, data analysis, providing cost and budget estimates, consultations to customers, as well as other duties as necessary.
- A.2 Laboratory Technicians (LT) – is the person responsible for supporting the tasks assigned by the LM through the TRF. The technicians also develop and construct specialized test equipment and accessories when required. He/she also maintains the work areas and laboratory equipment and insures all laboratory equipment is up to date on service and calibration.
- A.3 Task Request Form - A form that is used to initiate a task in the BRDL for material characterization or any other type of activity utilizing the laboratory area or personnel. The request can be from within code 800 or from outside organizations or projects. The request must be submitted to and approved by the LM prior to task initiation.
- A.4 Work Instruction (WI) - Code 820 has established standard test procedures for the more common types of material tests performed in the BRDL. These WI's define the equipment required, the safety precautions necessary, and the appropriate procedures for conducting the test. Custom tests that do not fit within the established WI's shall utilize the TRF for requesting tasks in the BRDL.

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## **Appendix B – Acronyms**

BPO	Balloon Program Office
BRDL	Balloon Research and Development Laboratory
IMTE	Inspection, Measurement and Test Equipment
IT	Information Technology
LM	Laboratory Manager
LT	Laboratory Technician
RD	Raw Data
TRF	Task Request Form
WI	Work Instruction

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### CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	June 17, 2010	Initial Release, this directive replaced 548-PG-8072.1.4, same title
A	October 19, 2015	Reviewed and updated the format in accordance with GPR 1410.1

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